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NEW PLANTS FROM THE GREAT BASIN.

BY AVEN NELSON AND P. B. KENNEDY.

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A desert flora is always interesting to the student. The hard conditions that prevail, produce variation or elimination. The unusual ecological factors give rise to a surprisingly large number of forms that seem to have characters which are both fixed and distinct.

Prof. P. B. Kennedy, of the University of Nevada, Reno, is favorably located for studying just such a flora. The Great Basin has interested others and much is known of its vegetation, but that vast area will long remain a fruitful field of inquiry. Mr. Kennedy is accumulating data and specimens which will add much to our knowledge concerning it. He is kindly permitting the undersigned to study his collections with him. The first paper on the plants of Mt. Rose appeared in the current volume of the Proceedings, p. 35. The present paper is offered as the first of a coordinate series. The results of this season's field work will be offered in subsequent papers.

***Sophia paradisa* sp. nov.**

Winter annual, 1-2 dm. high, branched from the base; stems glandular-pubescent; leaves densely and finely stellate-pubescent, silver-gray, pinnate, 1-3 cm. long; leaflets divided into rounded or linear lobes; flowers light-yellow, minute, clustered at the summit of the fruiting racemes; mature capsules almost glabrous, 4 mm. long and 1.5 mm. wide, abruptly attenuate towards the base and apex; pedicels slightly longer, glandular-pubescent; seeds oblong, light-brown, less than 1 mm. long, glabrous.

Allied to *Sophia incisa*. Found abundantly on dry, light colored adobe soil in the desert flats of Paradise Valley, Humboldt County, Nevada, April 30, 1905. P. B. Kennedy. No. 1059 (type). A considerable proportion of the specimens seen were stunted by a white rust, *Albugo*.

***Sphaerostigma orthocarpa* sp. nov.**

Plant 1-3 dm. high, branched from the base, hirsute-pubescent throughout; stems several, rather stout, purplish below; lateral branches slender;



leaves variable, from 1–15 cm. long; margins unevenly undulate-dentate; apex acute or obtuse, attenuate to a sessile base; flowers terminating the rather long, bracted, fruiting racemes; calyx-lobes oblong-lanceolate, 4 mm. long; corolla yellowish from the bud, becoming pink and purple with age; petals suborbicular 5 mm. long and 4 mm. wide; capsules narrowly linear. 3–5 cm. long, attenuate at base, straight or slightly curved; seeds 1 mm. long.

Allied to *S. Lemmoni* A. Nels.

Collected on the shore of Pyramid Lake, Washoe County, Nevada, May 19, 1905, No. 1015a (type) P. B. Kennedy.

***Godetia latifolia* sp. nov.**

Whole plant sparsely pubescent; stems purplish, 1–3 dm. high, erect, slender; leaves ovate-lanceolate, acute, entire, the largest 2.5 cm. long, attenuate at the base into a petiole 8 mm. long; calyx-lobes free, broadly linear-lanceolate, 8 mm. long; corolla deep purple; petals 8 mm. long and 6 mm. wide, attenuate at the base; stamens and style of nearly equal length; capsule sparsely pubescent, 8–12 mm. long, attenuate at the apex.

Nearest to *G. Tenella* from which it is easily separated by the shape and texture of the leaves. Type (accession No. 55,038) collected at Sierra Valley, Sierra County, California, July, 1904, Miss Helen Hamlin.

***Oreocarya hispida* sp. nov.**

Caudex about 5 cm. long, rather slender, apparently biennial; stems several, about 1–1.5 dm. high, floriferous almost to the base; leaves oblanceolate-spatulate, with long petioles dilated at the base, 2.5–5 cm. long including petiole; old leaves pubescent-hispid, silvery-gray; new leaves pilose-hispid, greener; inflorescence thyrsoid-glomerate; pedicels about 3 mm. long; calyx segments 4 mm. long, linear-lanceolate, equaling the tube of the corolla, very densely hispid; corolla cream-colored, tube 3 mm. long, lobes 3 mm. long, orbicular; crests at base of each lobe conspicuous; anthers almost sessile; nutlets forming an ovoid-pyramidal fruit, narrowed above, rather acute, more or less rugose or tuberculated on the back, margins angular; style elongated.

Collected in Carson Valley, Ormsby County, Nevada, April 24, 1904. No. 865 (type). G. H. True.

***Cryptanthe densiflora* sp. nov.**

Root biennial, stout; plant hispid throughout, about 2 dm. high, branching profusely from the base into numerous slender stems; stems thickly clustered with flowers above and below; leaves few, oblong to linear, about 1–2 cm. long; fruiting calyx closed; segments linear-lanceolate, 2.5 mm. long, hispid; corolla 2 mm. long, its lobes 1 mm. long, nutlets 1 or 2, light gray, 1.5 mm. long, minutely scabrous-muricate.

Allied to *C. muriculata* but with smaller nutlets, very slender numerous branches, and profuse inflorescence. Collected at Verdi, Washoe County, Nevada, September 29, 1904, No. 952 (type) P. B. Kennedy.

**Cryptanthe nevadensis** sp. nov.

Plant about 2 dm. high, branched from the base; leaves few, linear-lanceolate, pilose-hispid, from 1-2 cm. long, usually one at the base of each branchlet; fruiting calyx open, segments with a strong central vein, linear, 5 mm. long, about twice the length of the nutlets, pilose, also beset with stiff bristles; these about 2 mm. long and swollen at the base; corolla white, 2 mm. long; corolla-lobes 1 mm. long with minute brown veins; nutlets 4, and all alike, ovate-acuminate, 2 mm. long, minutely-scabrous.

Allied to *C. geminata* and *C. affinis*. Type (accession No. 55,039) collected in a dry gulch at Reno, Washoe County, Nevada, June 16, 1893. F. H. Hillman.

**Cryptanthe Hillmanii** sp. nov.

Annual, 1-2 dm. high, very slender, pilose throughout; leaves few, linear, 1-2 cm. long, calyx-segments densely pilose, about 2 mm. long, ovate-lanceolate; flowers mostly in terminal clusters at the ends of the stems and branchlets; corolla minute; nutlets smooth, solitary, scarcely 2 mm. long.

Distinct from any of the species in the section with smooth solitary nutlets, but perhaps nearest to *C. glomeriflora*.

Collected on a rocky hill opposite Huffakers ranch, near Reno, Washoe County, Nevada, May 27, 1893, F. H. Hillman. Type (accession No. 55,220) in Ry. Mt. Herb.